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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/072,335

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Kikuji Tanaka

0022-3465

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03/16/2005

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EXAMINER

LI, SHI K'

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/072,335

Applicant(s)

TANAKA ET AL.

Examiner

Shi K. Li

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 6 and 12 is/are allowed.
- 6) ☒ Claim(s) 5 and 7-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: "aid" in line 44 of the claim should read "said". Appropriate correction is required.
2. Claim 2 is objected to because of the following informalities: "mans" in lines 10 and 11 of the claim should read "means". Appropriate correction is required.
3. Claims 4-6 are objected to because of the following informalities: throughout these claims, the term "optical waveguide(s)" should read "optical waveguide path(s)". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 5 and 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 depends on claim 4, which in turn depends on claim 1. Claim 5 recites the limitation "said optical baseband-signal-component 90° phase shifter further comprises: a second two-output auxiliary waveguide optical branching unit for further branching said first optical waveguide [path] to form third auxiliary waveguide and fourth auxiliary waveguide path" in lines 3-7 of the claim. This, together with the limitation "a baseband-signal-component 90° phase shifter is provided in one of said first and second optical waveguide paths" in lines 35-36 of claim 1, implies that the baseband-signal-component 90° phase shifter is provided in the first

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optical waveguide path. Claim 1 recites limitation "wherein an optical delay circuit is provided in the other of [s]aid first optical waveguide path and said second optical waveguide path" in lines 44-45 of the claim. This, together with the above limitations, implies that the optical delay circuit is provided in the second optical waveguide path. However claim 5 also recites the limitation "wherein said optical delay circuit is placed in said fourth auxiliary optical waveguide [path]" in lines 17-18. Since the fourth auxiliary optical waveguide path is a branch of said first optical waveguide path, this contradicts the fact that the optical delay circuit is provided in the second optical waveguide path.

6. Claim 7 recites the limitation "said first to n-th auxiliary optical waveguide paths" in lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 8 recites the limitation "said first to n-th auxiliary optical waveguide paths" in lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 9 recites the limitation "said first to n-th auxiliary optical waveguide paths" in lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 10 recites the limitation "said first to n-th auxiliary optical waveguide paths" in lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 11 recites the limitation "said first to n-th auxiliary optical waveguide paths" in lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

***Allowable Subject Matter***

11. Claims 1-4, 6 and 12 are allowed.

The closest prior art references are:

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Jopson (U.S. Patent 5,745,273) disclosing in FIG. 1 an optical single sideband system with optical phase shifter and modulators; and

Way et al. (U.S. Patent 6,525,857 B1) disclosing in FIG. 5B an optical single sideband modulator.

However, Jopson and Way et al. do not teach "baseband-signal-component 90° phase shifter" as recited in claim 1.

12. Claims 7-10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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skl  
4 March 2005

A handwritten signature in cursive script, appearing to read "shik li".

**Shi K. Li**  
**Patent Examiner**